

ABSTRACT

The present invention concerns a process for making polyester containing up to 50 percent by weight transparent recycled waste polyester by a novel equilibrium depolymerization process. The equilibrium depolymerization process of the present invention for making polyester containing transparent waste polyester comprises the steps of providing a stream containing oligomers, feeding transparent polyester waste to an extruder, melting in said extruder said waste polyester, extruding said molten polyester into said stream containing oligomers, completing the esterification creating a prepolymer mixture, and polymerizing said prepolymer mixture thereby producing polyester containing waste transparent polyester suitable for food grade applications. The present invention meets or exceeds the Food and Drug Administration (FDA) requirements for food contact with polyester and is thus useful in food contact applications, for example beverage containers and polyester film wrap.

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